## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.







"Welcome Shelter Near Trail's End"

## \* FEDERAL-STATE COOPERATIVE SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

# MISSOURI and ARKANSAS DRAINAGE BASINS FEBRUARY 1,1947

By

Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Colorado Agricultural Experiment Station

Data included in this report were obtained by the agencies named above in cooperation with the U.S. Forest Service, National Park Service, State Engineers of Colorado, Wyoming and New Mexico and other Federal, State and local organizations.



### FEDERAL-STATE COOPERATIVE

### SNOW SURVEYS AND IRRIGATION WATER FORECASTS

FOR

MISSOURI-ARKANSAS DRAINAGE BASINS



Report Prepared by
Division of Irrigation
Soil Conservation Service

and

Colorado Agricultural Experiment Station
Fort Collins, Colorado

Miscellaneous Series Paper No. 353, Colorado Agricultural Experiment Station



### WATER SUPPLY OUTLOOK

### MISSOURI-ARKANSAS DRAINAGE BASINS

February 1, 1947

The water supply situation in Montana, Missouri River and tributaries, is favorable. At places the snow cover is the greatest in past years. Throughout Wyoming the outlook is favorable for all the principal streams of the state. Snow on the watershed of the Big Horn is about 30 percent above normal. On the North Platte watershed the average water content is about 10 percent above the average and about 10 percent less than a year ago. Storage in the principal reservoirs on the North Platte, Wyoming, is 20 percent less than this time last year. Agricultural conditions throughout the state are satisfactory. Throughout the entire South Platte Drainage area the over-all prospects for the coming summer's irrigation supply is quite favorable at this time. Reservoir storage is generally less than a year ago. For the Arkansas Valley the present outlook is fairly good. Average snow cover is less than a year ago and approximately equal to the past 12-year average.

### Missouri River and Tributaries in Montana

Snow cover in some places along the Continental Divide now is the greatest since 1935 and throughout this region the snow water storage is well above the average. Increase in snow depth during January was about average. Snow melt during late January brought stream flow to above normal. Reservoir storage is satisfactory. Fort Peck has 13,530,000 acre-feet now stored. Present outlook for water supply this season in Montana is quite favorable.

### Wyoming

Shoshone: Storage in the Shoshone Reservoir is above 10-year average. Snow on the headqaters is about 4 percent above last year at this time and 20 percent above normal. Range and moisture conditions in irrigated area are generally below normal. Water supply outlook now is favorable.

Big Horn: Snow cover on the Big Horn watershed now averages about 20 percent more than that of February first last year and 30 percent above the normal. Soil and crop conditions are generally fair to good. Reservoir storage is satisfactory. The outlook now is very favorable because of good snow pack in the high mountain country.

Sweetwater: Prospects for the coming season's runoff are satisfactory. Snow cover on the watershed is identical with that of a year ago.

Cheyenne: Outlook is reasonably good. Last year at this time the average water content of the snow in the Black Hills was 1.9 inches, it is now 2.7, which equals the average for the past four years. The filling in Belle Fourche Reservoir is now about three-quarters of capacity. Range and crop conditions are good.

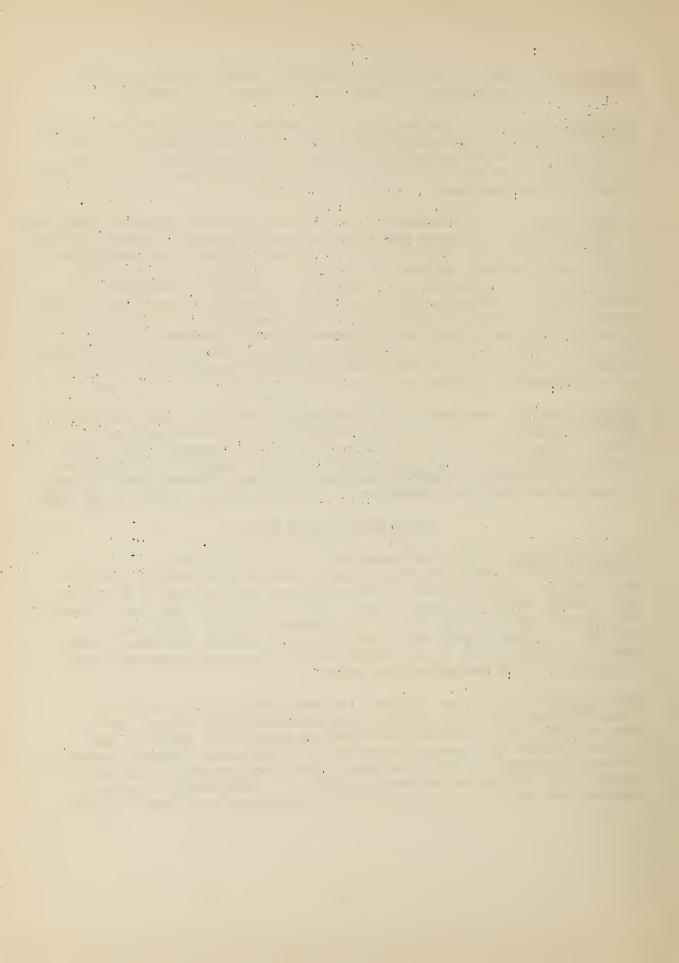
North Platte: On the watershed the snow cover is about 10 percent less than a year ago but is 9 percent more than the past twelve-year average. Storage in the four principal reservoirs on this river in Wyoming now aggregates 860,000 acre-feet as compared with 1,008,000 a year ago. The runoff in this stream can be expected to be normal this season and a substantial increase in the storage will be realized. Generally, stream flow is about normal both in Wyoming and Nebraska. Soil moisture is only fair in Wyoming and in the Mitchell and Bridgeport areas in Nebraska. Range and crop conditions are improved in the North Platte valley east of Scottsbluff. Storage in the Kingsley and Sutherland reservoirs equals about 1,160,000 acre-feet which is slightly more than it was last year at this time.

Laramie: On the headwaters of this stream and its tributaries the water content averages 7.3 inches, last year it was 7.6. The normal is 6.4 inches. The prospects are now reasonably good for a normal runoff this coming irrigation season. Soil moisture and crop conditions through the Laramie River valley are satisfactory at this time. Stream flow is normal. Storage in the Wheatland reservoirs is about 50 percent of that a year ago.

### South Platte River Basin

Cache la Poudre: Snow on the watershed of the main Poudre and its tributaries is slightly better now than a year ago. On Cameron Pass the water content is 14.2 inches, which is the greatest measured on February first during the past 10 years. The present outlook for the coming season's irrigation supply is very favorable. Reservoir storage is now about the same as it was a year ago. Stream flow is somewhat less than normal, the available supply is now being stored. Soil moisture and crop conditions are generally good throughout the valley.

Big Thompson: The general prospect for the water supply this coming season is now fairly good. Snow on the watershed is 10 percent better than last year and 25 percent more than the past 7-year average. The outlook, however, is somewhat dulled because the present reservoir storage is only 30 percent of that a year ago. Practically no carry-over is in storage from last year's irrigation season. Soil moisture in the agricultural area of the valley is fair. Crop and range conditions are good.



St. Vrain: Water content of the snow on the watershed of this stream and its tributaries is 8.4 inches, last year it was 7.0. The 11-year average is 6.3 inches. Prospects are now favorable for next summer's irrigation supply. Reservoir storage is now less than a year ago but filling continues with stream flow about normal. Crop, range and soil moisture conditions are generally satisfactory.

Boulder Creek: There is normal snow cover on the headwaters of this stream and its tributaries. The prospects are now favorable for an adequate irrigation supply this coming season. Reservoir storage is now about 20 percent less than a year ago. Stream flow is normal.

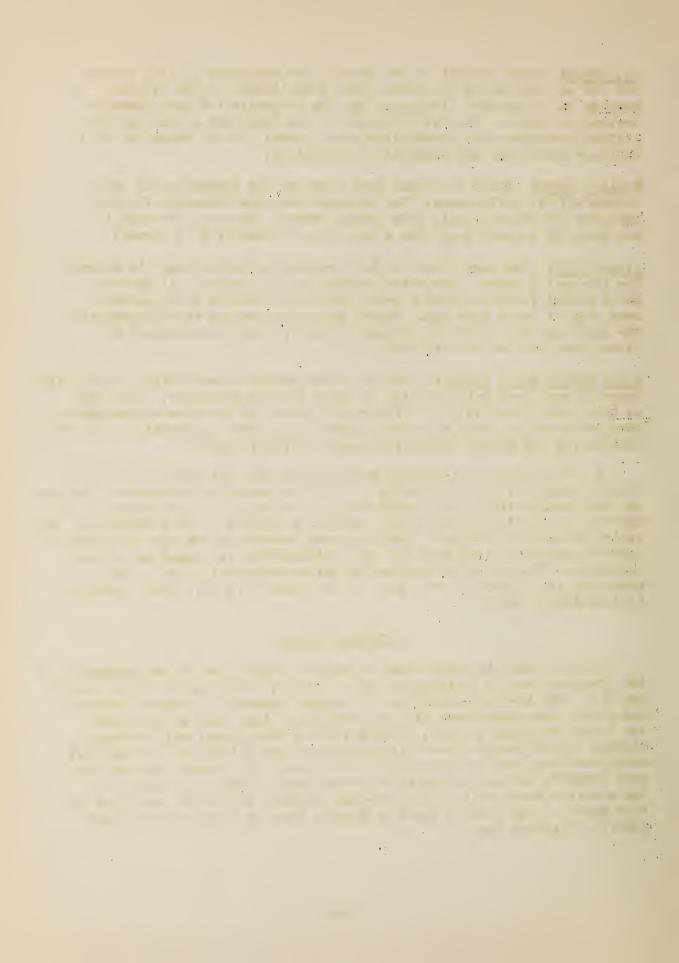
Clear Creek: The snow cover on this drainage is better than the average for the past 8 years. The water content is 8.8 inches or 13 percent above normal for this time of year. Reservoir storage is 10 percent less than it was a year ago. Runoff prospects are now fairly promising. The agricultural conditions throughout the irrigated area served by Clear Creek are now satisfactory.

South Platte Above Denver: Storage in the mountain reservoirs, principally Denver's municipal water supply, is about 167,000 acre-feet. Last year at this time it was 193,000. The water content of the snow on the water-shed now averages about 4 inches, a year ago it was 5. Normal is 3.2. The outlook for the coming irrigation season is fairly good.

For the entire South Platte drainage the over-all prospect for the coming summer's irrigation supply is at this time quite favorable. Throughout the lower valley, Fort Lupton east to the State line the present agricultural conditions are good. Reservoir storage in this section of the valley is now satisfactory. The principal reservoirs now have in storage 230,000 acre-feet, last year 250,000. Stream flow is normal and storage continues. Because of the average or better snow conditions in the mountains it is expected that most of the reservoirs will reach capacity filling during June.

### Arkansas River

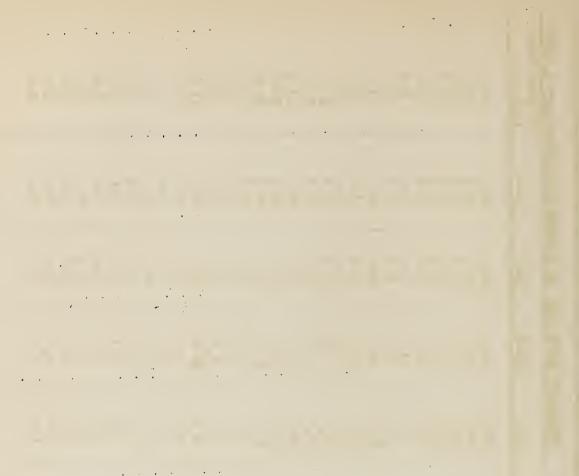
At this time the average water content of the snow on the headwaters of the Arkansas and its tributaries is 5.4 inches. Last year at this time it was 6.3. The 12-year average is 5.7 inches. Reservoir storage, mountain and plain, now approximate 210,000 acre-feet. Last year at this time the total was about 304,000. Stream flow is near normal and reservoir storage is continuing. Generally throughout the valley the agricultural conditions are very satisfactory at this time. The present outlook for next summer's irrigation supply is fairly good. The snow cover in the mountain areas will no doubt become improved during the remainder of this winter. The present depth on Monarch Pass is 3 feet but the snow density is rather low.



STATUS OF RESERVOIR STORAGE, MISSOURI-ARKANSAS BASIN, February 1947

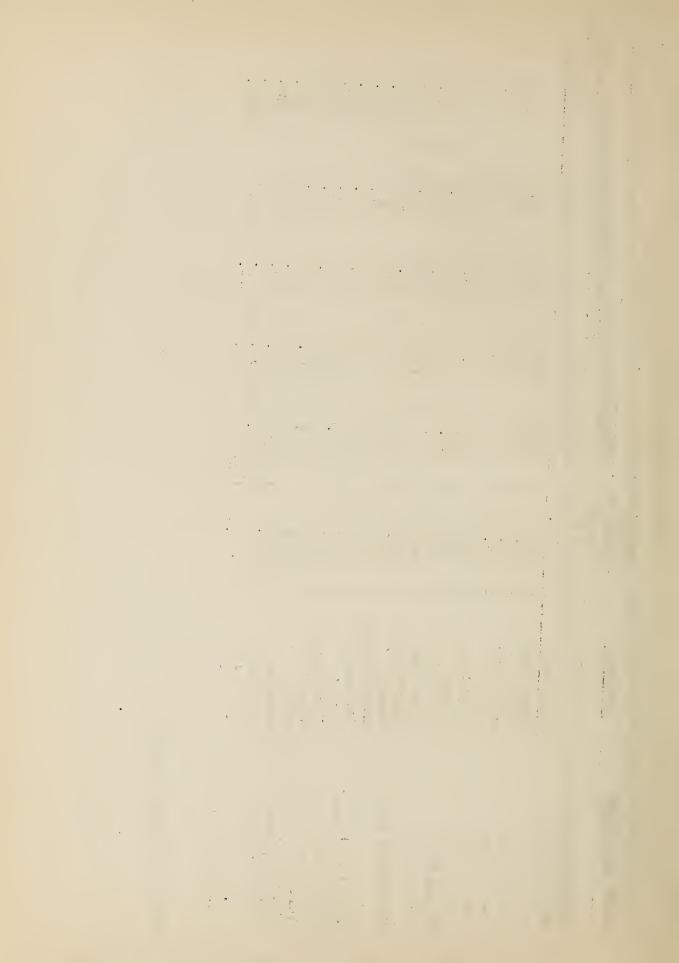
-5-

BASIN AND STREAM	RESERVOIR	USABLE	THOUSANI	S ACRE FER	T IN STORA	THOUSANIS ACRE FEET IN STORAGE About February 1	bruary 1, 1947
		(Thous. A.F.	1945	1946	1945	1944	10-year Avg.
MISSOURI RIVER							
South Platte River	Eleven Mile	81.9	81.9	81.9	81.9	81.9	72.7
	Cheeseman	0.6	49.5	74.5	1.09	60.2	53.6
=======================================	Marston	18.9	14.6	15.7	15.3	16.6	15.3
E	Barr Lake	32.2	25.4	25.5	17.4	17.2	13.6
=======================================	Milton	24.4	18.1	14.2	6.8	8.4	5.4
=======================================	Standley	18.5	7.0	13.5	7.7	5.7	80.
=======================================	Marshall	10.3	5.0	4.4	1.3	0.7	2.1
=======================================	Antero	33.0	20.0	20.0	19.4	19.7	7.4
=======================================	Horse Creek	20.6	12.5	16.0	4.3	1.9	3.7
=======================================	Riverside	57.5	53.9	0.64	29.1	35.0	32.7
=======================================	Empire	37.7	27.5	8.1.2	17.2	17.7	17.2
	Jackson Lake	35.4	26.5	27.3	56.6	29.3	27.7
=======================================	Prewitt	32.8	24.5	28.6	12.5	12.7	13.9
=======================================	Point of Rocks	70.0	2.44	58.8	39.8	8.04	37.8
=======================================	Julesburg	28.2	20.7	20.2	20.5	20.7	20.4
Boulder Creek	Barker Meadow	11.7	0	3.1	4.5	9.9	5.1
St. Yrain Rive	Union	12.7	v. v.	9.8	5.5	6.5	5.5
Big Thompson River	Lake Loveland	14.3	0	0.00	3.5	4.4	3°8
E	Boyd Lake	0.44	<b>4.</b> 4	4,45	26.0	26.5	11.8
=	Lone Tree	9.5	7.6	7.2	2.3	0.9	6.4
E	Mariano	5.4	0.7	6.9	0.7	4.0	1.6
Poudre River	Windsor	18.6	7.7	10.4	7.4	12.0	7.4
=	Cache la Poudre	9.5	5.2	ω α	9.0	6.2	5.2
=	Fossil Creek	11.6	7.1	8.1	1.6	5.0	5.3
-	Terry Lake	8.2	4.1	0.4	3.5	4.1	0.4
£	Halligan	4.9	3.0	0.0	1.3	0.0	2.2
<u>.</u>	Chamber's Lake	80.	2.4	1.8	3.5	1.9	2.4
£	Cobb Lake	34.3	7.0	4.6	8.7	8.9	3.8
0. 0.	Black Hollow	8.0	8.4	4.5	2.2	6.4	2.6
		-					



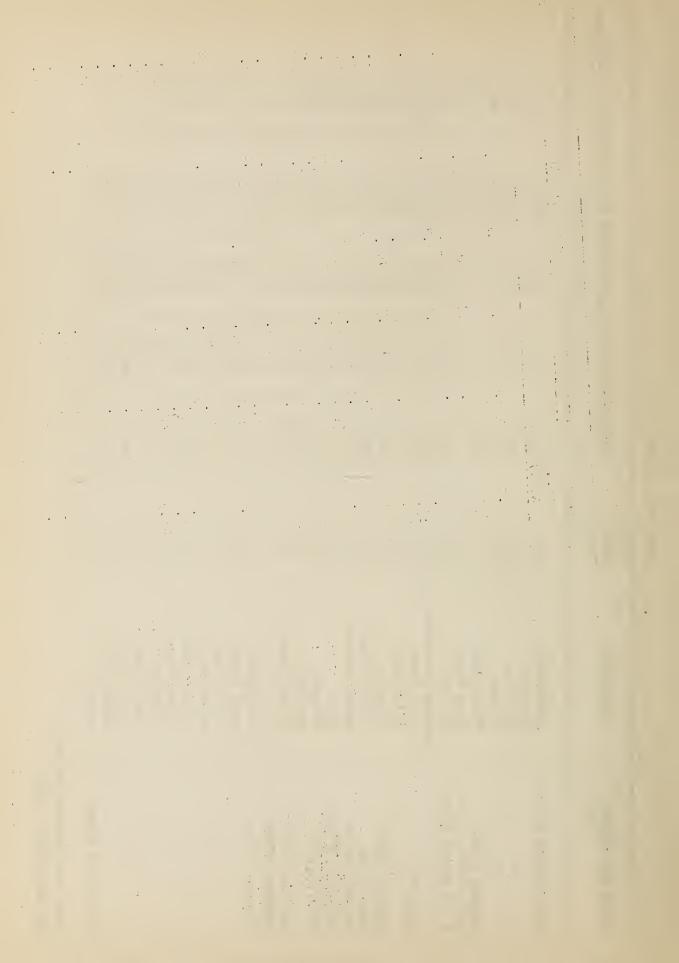
		USABLE					
BASIN AND STREAM	RESERVOIR	CAPACITY	THOUSANTS	ACRE	FEET IN STOR	STORAGE About February 1,	ebruary 1, 1947
		(Thous.					10-year Avg.*
		A F.)	1947	1946	1945	1944	1936-45
MISSOURI RIVER							
Missouri River	Canon Ferry	37.8	32.9	34.4	32.5	35.4	27.1
=	Hanser Lake	52.7	52.1	51.7	9.00	24.6	36.3
<b>c</b>	Holter	73.6	58.0	68.0	4.77	64.3	47.6
=	Smith River	10.7	į	i i	4.9	2.8	5.9
0	Gibson	105.0	56.7	!	54.5		47.2
=	Willow Creek	32.4	12.9	ì	21.1	16.8	5.6
=	Pi.shkun	32.0	22.9	1 1	17.5	18.0	11.5
Marias River	Four Horns	20.0	i	らら	5.3	7.5	7.9
Ξ	Birch Creek	30.0	1 1	18.9	20.6	22.4	13.7
=	Lake Francis	112.0	1001	95.4	98.3	105.3	9.64
Musselshell River	Durand	7.0	4.9	5.2	5.8	4.5	3.9
=	Deadmans Basin	52.5	47.0	į	47.2	48.0	43.2
Ξ	Martindale	23.0	0.6	9.6	11.4	10.0	8.5
Yellowstone River	Cooney	27.5	1	0.4	0.0	6.5	12.0
Tongue River	Tongue River	73.9	9.01	10.5	6.2	9.5	7.0
Milk River	Fresno	127.2	53.8	51.0	39.7	74.1	39.7
=	Nelson	8,99	27.4	29.9	39.0	43.8	30.0
St. Marys River	Sherburne	0.99	20.9	18.3	17.6	6.6	11.7
Missouri River	Fort Peck	19000.0	13530.0	12180.0	10444.0	9423.0	5477.9
	~			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			

\*Some for shorter periods.



BASIN AND STREAM	RESERVOIR	USABLE	THOUSANES	S ACRE FEET	T IN STROA	IN STROAGE About February 1	uary 1, 1947
		(Thous.	1947	1946	1945	1944	10-year Avg. 1936-45*
		1	1				
North Platte River	Pathfinder	1070.0	353.0	297.7	210.1	205.6	152.3
=	Guernsey	72.7	42.2	45.6	38.5	30.8	30.4
one one	Seminoe	1020.0	380.0	595.3	142.3	221.1	137.7
=======================================	Alcova	165.8	83.3	72.9	16.5	32.6	8.44
Laramie River	Wheatland	70.4	21.8	42.8	3.3	28.7	16.4
North Platte River	Lake Alice	13.8	c	0	0	0	0.2
Nc. "h Platte River	Minatare	60.8	19.2	32.7	19.8	11.8	19.4
	Kingsley-Sutherland	2180.0	1164.3	1115.3	747.0	675.0	661.5
Wind River	Bull Lake	155.0	83.4	8.69	58.2	85.1	57.9
: :	Pilot Butte	30.0	6.0	17.1	16.0	24.0	16.3
Shoshone River	Shoshone	456.6	322.9	374.2	306.4	348.1	277.4
Snake River	Jackson Lake	847.0	528.6	663.9	381.8	673.6	378.4
Cheyenne River	Belle Fourche	198.1	140.6	123.8	118.9	95.3	66.1
Jefferson River	Ruby	39.0	25.9	33.0	25.5	25.1	25.4
Madison River	Hebgen	345.0	272.5	5,042	233.3	243.6	230.5
1	Madison	41.0	30.6	36.6	34.6	37.1	28.5
Gallatin River	Mystic Lake	20.8	13.2	13.6	13.0	11.8	8.7
Annahoro River	E	1	000	20	ני	<i>y</i> 80	α
Airenses niver	Chan Lakes	V = 7 -	0.02	7.60	, , , , , , , , , , , , , , , , , , ,	0.00	0.52
=	Dugai boai	†	-0	η α	+ α • •	°	- M
	Meredith	t.11	าม - วาว วาว	0,00	30.1	7.2	9.01
11	Horse Creek	6.90	17.4	16.0	11.2	0	7.8
=	Adobe Creek	9.0	28.4	9.94	32.9	24.7	18.1
£	Cucharas	0.04	2.0	5.1	11.5	0.1	7.9
=	Two Buttes	6.04	1	4.0	1.0	0.0	14.3
	John Martin	655.0	46.9	9.04	36.9	12.5	
=	Great Plains	150.0	56.0	102.8	106.5	9.5	16.5
Purgatoire River	Model**	15.0	2.1	3.5	2.7	8.3	4.3
**************************************	υ ( ) • ( )						

<sup>\*</sup>Some for shorter periods. \*\*Resurveyed in 1946



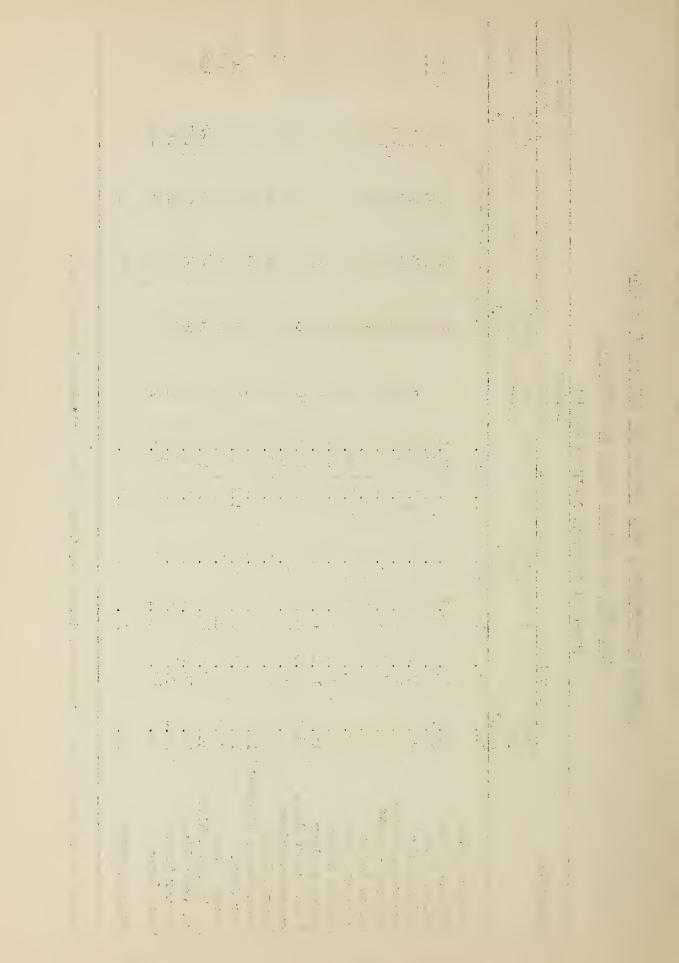
SUMMARY OF FEBRUARY 1 SNOW SURVEYS AND COMPARISON OF DATA

# WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

MISSOURI -ARKANSAS DRAINAGE BASINS

			TOCOCTE	TO T	7		Number				1947 Water Content	Content
WATERSHELS	Sı	Snow Depth	h.	Water	Content	nt	Courses	Snow	Snow Density		in Percent	ent of
	Twelve	1946	1947	Twelve	1946	1.947	in	Twelve			Twelve	
	Year			Year			Average	Year	1946	1947	Year	1946
	Avg.*			Avg.*				Avg.*			Avg.*	
	In.	In.	In.	In.	In.	In.		Percent	Percent	Percent		
MISSOURI RIVER												
Jefferson River	26.8	33.8	•	9.9		10.2	17	25	23	56	155	133
Madison River	1.44	53.0	•			17.4	9	27	29	37	145	111
Gallatin River	27.8	35.2	•			0.8	m	23	24	27	125	76
Yellowstone River	56.6	33.9	•			8.2	a	23	22	24	137	110
Missouri River**	22.0	24.8	•			9.5	4	77	23	88	174	164
Marias River	36.0	9.64	•			20.2	Н	53	56	32	193	158
Shoshone River	42.9	0.74				14.0	N	27	8	27	120	103
Bighorn River	32.6	34.2				10.1	ω	57	22	54	128	119
Cheyenne River	16.8	12.8	•			2.7	m	17	15	17	96	142
Worth Platte River	41.8	42.8	42.1	6.6	12.0	10.8	10	24	28	56	109	96
Sweetwater River	32.3	34.6	•			10.0	CJ	23	53	25	133	101
Laramie River	25.6	30.2	•			7.3	ω	25	25	54	114	96
South Platte River***	18.2	23.8	•			3.7	m	18	77	16	115	7/
Crow Creek	13.1	7.3				2.6	Н	20	17	18	100	216
Poudre River	26.3	30.4	•			7.9	9	54	24	27	126	107
Big Thompson River	36.0	38.0	•			10.7	a	24	26	33	122	108
St. Vrain River	58°.	34.0				4.8	Н	23	rJ.	24	133	120
Boulder Creek	22.0	8.63	•			6.8	N	27	31	83	113	73
Clear Creek	34.0	43.2	•			ω დ	α	23	56	2 <sup>†</sup>	113	92
CHARLES OF SHARES				t L	(	 L	(	Ö	Ć	S	Ü	20
ARMAINDAD ALVER	0.00	0.07	t. ) 7		٠ <u>.</u>	4.0	7	7	<del>1</del> 7	Q V	22	00

\*\*\*Above Denver, Colo. \*\*Between Helena and Great Falls \*Some for shorter periods

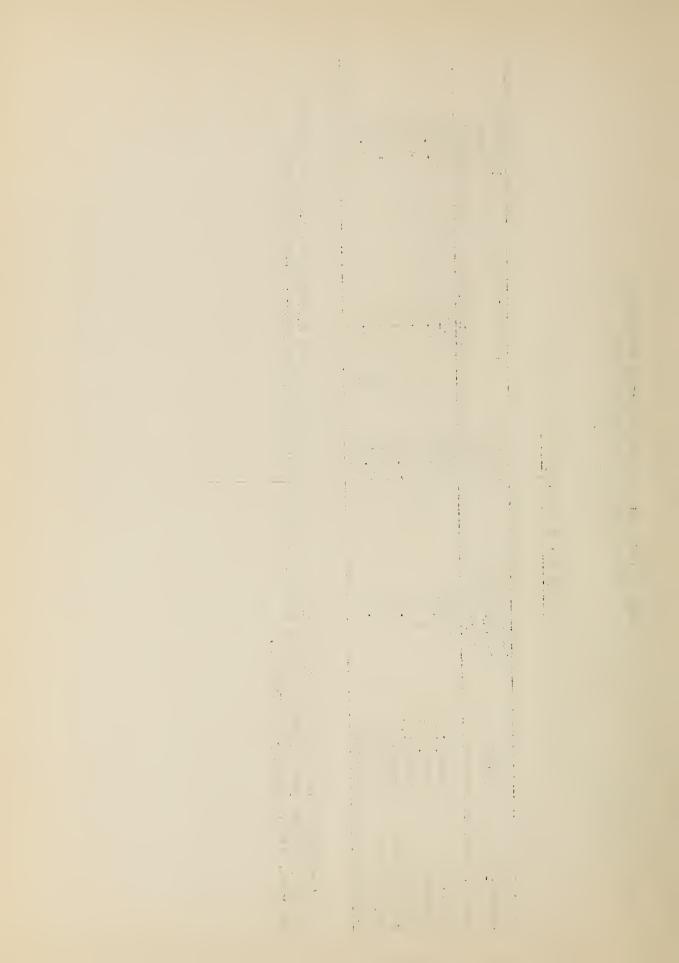


# SNOW SURVEYS AND IRRIGATION WATER FORECASTS FOR MISSOURI AND ARKANSAS RIVERS February 1, 1947

# PRECIPITATION DATA

		Precipitation	Departure	Precipitiation	Departure
WATERSHED	STATE	October 1 to	from		from
		January 31	Normal	January	normal
		Inches	Inches	Trches	Inches
Missouri	East. Mont.	3.33	£0.87	0.33	-0.19
Missouri	Cent. Mont.	4.53	+1.40	0.37	-0.30
Missouri	North Wye.	6.75	+1.24	0.95	-0.52
North Platte	Wyoming	3.81	54.01	06.0	+0.12
South Platte	Colorado	6.28	+3.56	0.67	60.0-
Arkansas	Colorado	5.55	+1.97	19.0	90.0-

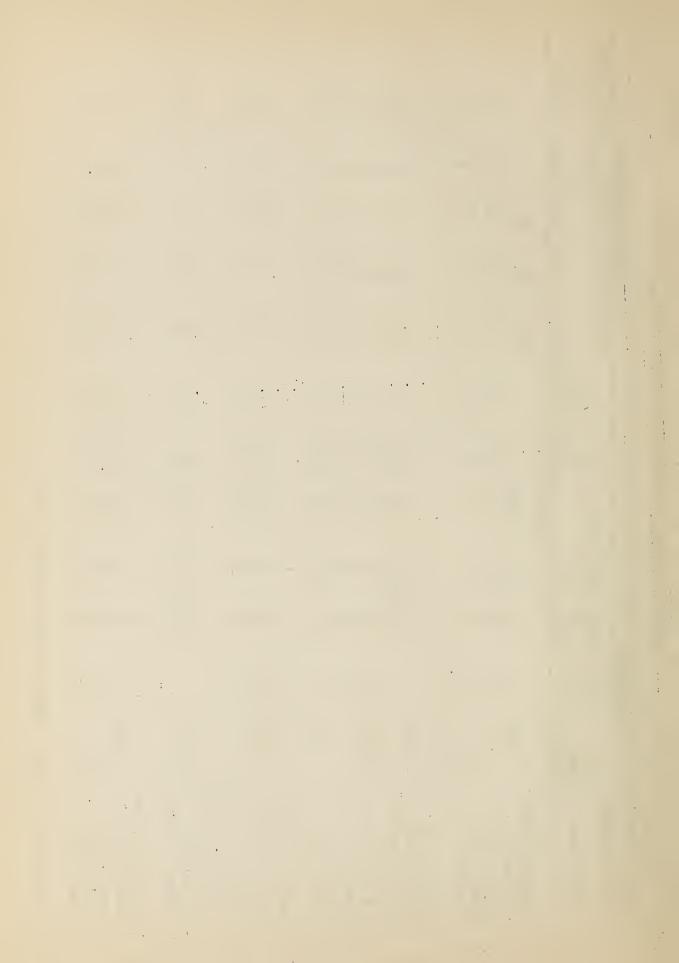
Accumulated precipitation since October 1, over the watercheds of the Missouri and Arkansas Rivers in Montana, Wyoming and Colorado is above normal. January precipitation was below normal except over the North Platte drainage in Wyoming.



-10-MISSOURI-ARKANSAS RIVERS SNOW SURVEYS, February 1, 1947

	rd	٠ يا																					
	Past Record	Av.Water Content (Inches)			14. 5.0.	ų V	14.7	21.5	3,1,4	7.0	ω; ω,	0.0	-	۲. ۲.			5.4	9.9		ω. α	, d.	7.9	
MEASUREMENTS		Years of Record		10	υœ́α	0	10	10	07	0 [	01,	70		10	99		۱,0	9		01.5	201	10	
1	1	1945		The the	7 ,	Li	9.1	13.5	0.	4	i - i	.!		3.4	0 E		¢	ŧ		4.0	- 9. 0.	5.0	
A COURSE	Water Content	1946		In.	18.0	0.	21.2	28.8	13.6	8	12.3			9.9	12.3	)	6.7	8.1		9.0		9.3	_
MONS	Water	1947		In. 9.3	23.5	ر. ح	23.4	32.9	15.0	4,0	14.6	7.6		5.4	14.0		0	8.3		0,0	10.01	13.5	
		Snow Depth (Inches)		0.04	77.0	55.	0.47	92.0	70.0	36.4	00 c	43.0	)	20.5	18.0		32.5	35.9		19.1	39.6	9.44	
		Late of Survey	I RIVER	1/31	2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/	2/2	1/16	1/16	1/28	1/30	1/31	1/31	`	1/31	1/31	>	2/4	2/4		2/1	1/30	1/31	
		Elev.	MISSOURI RIVER	6800	7100	002	7700	7900	6500	00 9	7150	0000		0099	6600		7300	7500		6200	6800	8000	- Marie
		Range or Long.		3Œ	19W	<u> </u>	110.6W	MY OII	Th	円!	—— 見見	14年		田	門門		- 110.6W	110.6W		R.	6 6 6 6	M	
		Two. or Lat.		13N	£ 83 £	<b>=</b>	44.2N	44.2N	14N	138	11S	4 6		38	38 118		N6. 44	N6.44		88 8	N NS	8N	
LOCATION		Sec		전 8	אַ לַ	†			34	34	٦ (	75	-	31	37					מי	13	19	
TOO		No. and State		6 Ida.	10 "	20	2 Wyo.	, <del>-</del> Φ	3 Ida.	16 Mont.	= =	Ida.		Mont.	=		40 Wyo.	, 41		6 Mont.	: 75 75	43 "	
	LRAINAGE BASIN	and SNOW COURSE		JEFFERSON RIVER Camp Creek*	Figure Grounds Gibbons Pass	Fipestone rass	MADISON RIVER Aster Creek*	Lewis L.Divide*	Big Springs*	W.Yellowstone	21-Mile*	Hebgen Lam		GALLATIN RIVER Mystic Lake #1	Mystic Lake #2 21-Mile		YELLOWSTONE RIVER Lupine Creek	Blacktail Deer Cr	MISSOURI RIVER**	Chessman Res.	Middle Fimini	Upper Rimini	

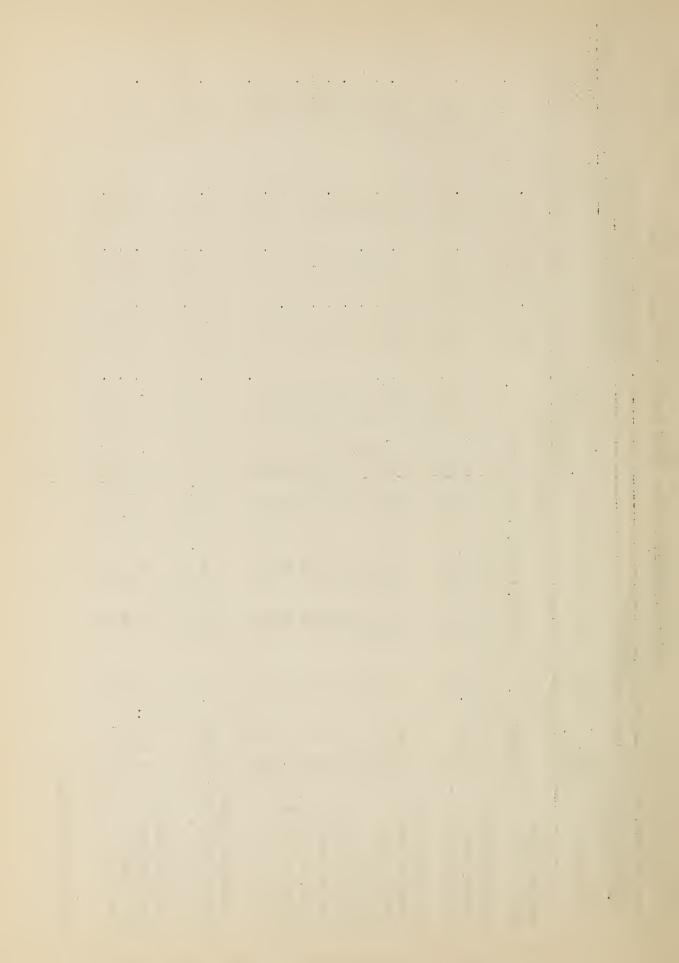
\*On Adjacent Drainage \*\*Between Helena and Great Falls



.11.. MISSOURI-ARKANSAS RIVERS SNOW SURVEYS, February 1, 1947

		Past Record	Content (Trokes)	(201001)	10.5	10.3 13.1	1
CERTIFICATION	ENTS	Vears	of Record		10	ľν∞	0
ACT CT TO A	ACCRES	(Inch	1945		In 6.9	9.6	
TTO CTT	SINOW COURSE MEASUREMENTS	Water Content (Inches)	1946		In. 12.8	10.9	9 m n n n n n n n n n n n n n n n n n n
CANOTIO	SINOW C	Water	1947		In. 20.2	9.4	01 02 0300 0300 0300 0300 0300 0300 0300
		Snow		VER	6.33	37.0	13.33 66.03 13.33 13.
		Tate	of Survey	MISSOURI RIVER	1/31	1/30	21
			Elev.	MISS	5250	7100	89 60 60 60 60 60 60 60 60 60 60
		T references	Range		113.47	110W 110W	110W 101W 101W 101W 110W 110W 107W 107W
TTOM	107		Twp.		48.3N	52N 44N	11N 23N 4 4 23N 4 4 23N 4 4 23N 4 23
T,OCATTON			Sec.			12	23 23 23 23 23 23 23 23 23 23 23 23 23 2
		No.	and State		20 Mont.	32 Wyo.	12 Wyo. 45 " 47 " 52 " 53 " 74 " 75 " 75 " 75 " 75 " 75 " 75 " 75 "
	TEATWACE BASTN	and and	SNOW COURSE		MARIAS RIVER Marias Pass	SHOSHONE RIVER Sylvan Pass Brooks Lake #3*	BIG HORN RIVER Togwotee Pass Sawmilj Glade Blue Ridge South Pass Sheridan Cr.R.S. Brocks Lake #3 St.Lawrence R.S Mosquito Park R S. DuNoir T-Cross Ranch SWEETWATER RIVER Grannier Meadows South Pass* CHEYENNE RIVER Upper Spearfish Upper Castle Deerfield

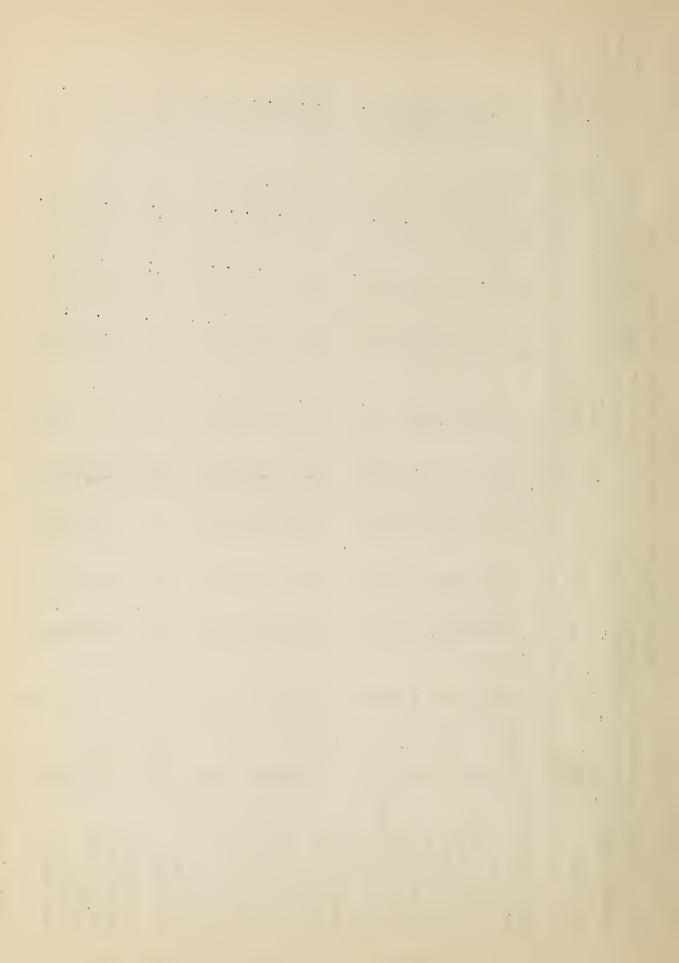
\*On Adjacent Drainage



-12-MISSOURI-ARKANSAS RIVERS SNOW SURVEYS, February 1, 1947

Range Elev. of Date Snow MISSOURI RIVER   10300 2/1 40.2   176W 9200 2/3 38.1   185W 9200 2/3 42.1   185W 9200 2/3 42.1   14.5   17.1			TOCY	T,OCATT ON					SNOW	SNOW COURSE MEASUREMENTS	WE ASTRE	MENT'S		1
Mo.   Sec.   Tup.   Range   Elev.   Order   Srow   State   S	GE BASIN								Water (	Jontent	(Inches			
## Sec. Twp. Range Elev. Orf Torhes) 1947 1946 1945 Record Invites   1040		No.					Date	Snow				Years	Av.Water	
RIVER   1 Colo.   2   EW   76W   10300   2/1   40.2   14.2   12.4   9.7   9     7   1   24   78W   82W   9200   2/3   29.8   6.8   9.1   3.0   11.4     8   1   1   1   1   1   1   1   1   1	OURSE	and State	Sec.	Twp.	Range	Elev.	of Survey	Depth (Inches)	1947	1946	1945	of Record	Content (Inches)	
## 1 Colo. 2						MISS		/ER		1				
dage         8         1         100.0         2         100.0         2/1         100.0         12.4         97.7         97.9           dage         8         1         24         378         9300         2/3         38.1         10.9         10.8         12.4         97.7         97.9           se*         6         1		7	(	,	:		7,0	(	il.	il:	EI C	(	4	
dge 8" 21 7W 76W 9200 2/3 29.8 6.8 9.1 3.0 11  6K 8 " 21 14M 85W 9500 2/3 38.1 10.9 16.2 10.8 12  6 8 " 27 14M 85W 9500 2/3 38.1 10.8 9.4 7.4 10.  6k 8 " 27 14M 85W 9500 2/3 42.1 10.8 9.4 7.4 10  6k 37 " 27 14M 85W 9500 2/3 42.1 10.8 9.4 7.4 10  6k 37 " 27 14M 85W 9500 1/30 1/30 1/20 13.4 19.9 13.4 10  6k 37 " 27 14M 80W 10200 1/30 1/20 13.4 19.9 13.4 10  6k 37 " 27 14M 80W 10200 1/30 1/20 13.4 19.9 13.4 10  6k 37 " 27 14M 80W 9400 1/30 1/20 13.4 19.9 13.4 10  6k 37 " 27 14M 80W 9400 1/30 1/20 13.4 19.9 11.2 13.9 9.4 10  6k 38 " 35 " 24 16M 75W 8700 1/31 14.5 2.6 6.3 3.7 10  6k 38 " 75W 9800 2/2 1/31 28.2 5.1 2.7 11  6k 38 " 75W 9800 2/2 1/31 28.2 5.1 5.5 5.9  6k 7W 7W 9800 2/2 1/31 14.5 2.6 1.2 2.7 11  6k 2 10M 75W 9600 2/1 14.5 2.6 1.2 2.7 11  6k 2 10M 75W 9600 2/1 14.5 1.2 12.4 9.7 9  6k 2 10M 75W 9600 2/1 14.5 1.2 11.8 1.8 9  6k 3 1 33 6W 75W 9600 2/1 14.5 1.2 11.1 11.8 9  7 10 10 10 10 10 10 10 10 10 10 10 10 10	Tass	L COTO.	ν.	NG	MG)		2/1	40.2	14.2	12.4	0.7	0	6.6	
dge 8 " 21 5W 82W 9300 2/1 49.0 10.9 16.2 10.8 12  set 6 W" 27 14M 76W 8500 2/3 38.1 6.0 11.4 3.9 9  6 8 W" 27 14M 85W 8500 2/3 42.1 10.8 9.4 7.4 10  ek 3 W" 27 14M 85W 8500 2/3 64.4 21.2 18.7 14.0 10  ek 3 " 30 16M 80W 10200 1/20 67.2 11.4 19.0 13.4 10  eet/#2 38 " 30 16M 80W 10200 1/20 67.2 11.4 10.9 13.4 10  eet/#2 38 " 37 14M 87W 80W 10200 1/20 17.1 11.2 12.0 13.9 9.4 10  wm. 4 Colo. 2 1 1 1 16M 75W 87W 87W 1/31 14.5 5.2 6.3 3.7 11  #2 36 " 24 16M 75W 87W 10200 1/31 22.7 5.2 6.3 3.7 11  #2 36 " 24 16M 75W 87W 1/31 22.7 5.2 6.3 3.7 11  #2 36 " 24 16M 75W 87W 1/31 22.7 5.2 6.3 3.7 11  #2 36 " 24 16M 75W 8600 2/1 22.2 5/1 5/5 8  8 4 Wyo. 35 15W 72W 87W 1/30 1/31 22.7 5.2 6.3 3.7 11  8 5 10M 77W 9800 2/2 50.3 13.5 11.8 8.5 8  8 1 1 Colo. 2 6M 76W 10300 2/1 14.5 2.6 1.2 2.7 11  8 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	jew		5#		78iv		2/3	8.63	8.9	9.1	ص 0.	11	5.1	
## 62 " 1 hw 78w 8500 2/3 38.1 8.0 11.4 3.9 9  ## 27 Wyo. 24 14w 85w 8200 2/3 30.0 7.3 6.9 5.8 10  ## 37 " 27 16w 80w 10200 1/30 55.2 13.4 19.9 13.4 10  ## 21	ine Lodge		に		82W		2/1	0.64	10.9	16.2	10.8	12	12.6	
echter 37 "Wyo. 24 14M 85W 8200 2/3 42.1 10.8 9.4 7.4 10  echter 37 " 27 14M 85W 9800 2/3 42.1 10.8 9.4 7.4 10  echter 37 " 27 14M 85W 10200 1/30 44.5 9.8 11.2 13.4 10  echter 38 " 30 16M 80W 10200 1/30 44.5 9.8 11.2 7.9 10  B 3 Wyo. 11 16M 75W 9200 1/31 42.3 12.2 13.9 9.4 10  111 " 21 13M 75W 9200 1/31 14.5 2.6 1.2 2.7 11  ##2 35 " 24 16M 75W 8600 2/1 22.2 5.1 5.5 5.9 8  w. 4 Colo. 7 8W 77W 8600 2/1 22.2 5.1 5.5 5.9 8  ##2 36 " 26 10M 77W 9800 2/2 50.3 13.5 11.8 8.5 8  34 Wyo. 35 15M 76W 8600 2/1 14.5 2.6 1.2 2.7 11  8	Cr.Pass*	: 29	7	FI	78W		2/3	38.1	φ 0	11.4	9.0	0	6.8	
6 8 " 27 14M 85W 9000 2/3 42.1 10.8 9.4 7.4 10 6tk 37 " 27 14M 85W 9800 2/3 64.4 21.2 18.7 14.0 10 6ebt/2 38 " 30 16M 80W 10200 1/30 44.5 9.8 11.2 7.9 13.4 10 8 39 " 34 16M 81W 8400 1/28 27.3 5.1 4.7 4.4 10 8 34 " 35 15M 72W 8700 1/31 42.3 12.2 13.9 9.4 10 8 11 " 21 13M 72W 8700 1/31 14.5 2.6 1.2 2.7 11 8 8 " 29 16M 75W 8700 1/31 22.7 5.2 6.3 3.7 10 8 8 " 26 10M 75W 8600 2/1 22.2 5.1 5.5 5.5 8 8 8 " 5 10M 75W 8600 2/2 50.3 13.5 11.8 8.5 8 8 1 1 Colo. 2 6M 75W 8600 2/1 14.6 4.0 4.8 4.5 9 8 1 1 Colo. 2 6M 75W 8600 2/1 14.6 4.0 4.8 4.5 9 8 2 " 6 7W 75W 8600 2/1 14.6 4.0 4.8 4.5 9 8 2 " 6 7W 75W 8600 2/1 14.6 4.0 4.8 4.5 9 8 2 " 6 7W 75W 8600 2/1 14.6 4.0 4.8 4.5 9 8 2 " 6 7W 75W 8600 2/1 14.6 4.0 4.8 4.5 9 8 2 " 6 7W 75W 8600 2/1 14.6 4.0 4.8 4.5 9 8 2 " 75W 75W 8600 2/1 14.6 4.0 4.8 4.5 9 8 2 " 75W 75W 9000 2/1 14.6 4.0 4.8 4.5 9 8 2 " 75W 75W 9000 2/1 14.6 4.0 4.6 13.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7	Creek	7 Wyo.	54	14N	85W		2/3	30.0	7.3	6.9	5.8	10	6.7	
eelff 37 " 29 14M 85W 9800 2/3 64.4 21.2 18.7 14.0 10 eelff 38 " 30 16M 80W 10200 1/30 44.5 9.8 11.2 7.9 13.4 10  8 3 Wyo. 11 16M 75W 10200 1/31 42.3 5.1 4.7 4.4 10  11 " 21 13M 75W 8700 1/31 25.7 5.2 6.3 3.7 11  #2 35 " 29 16M 8700 1/31 25.7 5.2 6.3 3.7 11  #2 36 " 24 16M 75W 8700 1/31 25.7 5.2 6.3 3.7 11  #2 36 " 26 10M 75W 8600 2/1 22.2 5.1 5.5 8  8  " 5 10M 77W 9800 2/1 14.5 2.6 1.2 2.7 11  34 Wyo. 35 15M 72W 8700 1/31 14.5 2.6 1.2 2.7 11  e 2 " 88 " 5 10M 77W 9800 2/1 14.5 2.6 1.2 2.7 11  and you have a second of the second	. Spring		27	14N	85W		2/3	42.1	10.8	7.6	7.4	10	0	
ek#e 37 " 27 16% 86% 102c0 1/30 55.2 13.4 19.9 13.4 10 eek#e 38 " 30 16% 86% 102c0 1/30 44.5 9.8 11.2 7.9 10  8	ttle (	6	56	14N	85W		2/3	4.49	21.2	18.7	14.0	10	16.9	
eelc#2 38 " 30 16ft 80m 9400 1/20 44.5 9.8 11.2 7.9 10  R 3 Wyo. 11 16ft 79M 10200 1/31 42.3 12.2 13.9 9.4 10  111 " 29 16ft 79M 8700 1/31 14.5 2.6 1.2 2.7 11  #2 35 " 29 16ft 79M 8700 1/31 25.7 5.2 6.3 3.7 10  wn. 4 Colo. 7 8m 77M 8600 2/1 22.2 5.1 5.5 9  88 " 5 10M 77M 9800 2/2 50.3 13.5 11.8 8.5 8  34 Wyo. 35 15M 72W 8700 1/31 14.5 2.6 1.2 2.7 11  1 Colo. 2 6ft 76M 10300 2/1 14.5 2.6 1.2 2.7 11  2 50 " 65 " 8 8m 77M 8600 2/1 5.4 1.0 6.5 9  e 2 " 6ft 76M 10300 2/1 14.5 2.6 1.2 2.7 11  als 5M 77M 10200 1/30 14.5 2.6 1.2 2.7 11  e 2 " 6ft 77M 75M 9600 2/1 14.5 2.6 1.2 2.7 11  e 2 " 7 M 75M 9600 2/1 14.5 2.6 1.2 2.7 11  e 2 " 7 M 75M 9600 2/1 14.5 2.6 1.2 2.7 11  e 2 " 7 M 75M 9600 2/1 14.5 2.6 1.2 2.7 11  e 2 " 7 M 75M 9600 2/1 14.5 2.6 1.2 2.7 11  e 2 " 7 M 75M 9600 2/1 14.5 2.6 1.2 2.7 11  e 2 " 7 M 75M 9600 2/1 14.5 2.6 1.2 2.7 11  e 2 " 7 M 75M 9600 2/1 14.5 2.6 1.2 2.7 11  e 2 " 7 M 75M 9600 2/1 14.5 2.6 1.2 2.7 11  e 2 " 7 M 75M 9600 2/1 14.5 2.6 1.2 2.7 11  e 2 " 7 M 75M 9600 2/1 14.5 2.6 1.2 2.7 11  e 2 " 7 M 75M 9600 2/1 14.5 4.0 4.0 4.8 4.5 9.7 9.1 6.5 9  e 2 " 7 M 75M 9600 2/1 14.5 4.0 4.0 4.8 14.5 9  e 3 " 7 M 75M 9600 2/1 14.5 4.6 3.7 9.1 6.5 9  e 4 " 7 M 77M 9600 2/1 14.5 4.6 9.7 9.1 6.5 9  e 5 M 77M 10200 1/30 39.3 9.3 9.7 9.1 6.5 9  e 6 M 77M 10500 1/30 1/30 14.5 12.4 4.6 3.7 9.1 9.1 9.1 9.1 9  e 6 M 77M 10500 1/30 1/30 14.5 12.4 4.6 9.7 9  e 7 M 77M 10500 1/30 1/30 14.5 12.4 12.6 12.6 12.6 12.6 12.6 12.6 12.6 12.6	ch Creek	37 "	27	J GN	80M		1/30	0,55	13.4	19.0	13.4	10	75.7	
R 3 9 " 34 16N 81V 8400 1/28 27.3 5.1 4.7 4.4 10  8 13 Wyo. 11 16N 79W 10200 1/31 42.3 12.2 13.9 9.4 10  11 " 21 13N 76W 8700 1/31 14.5 5.2 6.3 3.7 11  #2 36 " 29 16N 79W 8700 1/31 22.7 5.2 6.3 3.7 11  #2 36 " 24 16N 79W 8700 1/31 22.2 5.1 5.5 8  wn. 4 Colo. 7 6N 75W 8600 2/1 22.2 5.1 5.5 8  * 88 " 5 10N 77W 9800 2/2 50.3 13.5 11.8 8.5 8  34 Wyo. 35 15N 72W 8700 1/31 14.5 2.6 1.2 2.7 11  8 2 1 1 Colo. 2 6N 76W 10300 2/1 14.5 12.4 9.7 9  e 2 " 6 7N 75W 8600 2/1 5.4 14.6 1.2 12.4 9.7 9  e 2 " 6 7N 75W 9600 2/1 14.6 1.2 12.4 9.7 9  e 2 " 6 7N 75W 9600 2/1 14.6 1.2 12.4 9.7 9  e 2 " 6 7N 75W 9600 2/1 14.6 1.2 12.4 9.7 9  e 2 " 6 7N 75W 9600 2/1 14.6 1.2 12.4 9.7 9  e 2 " 6 7N 75W 9600 2/1 14.6 1.2 12.4 9.7 9  e 2 " 7N 75W 9600 2/1 14.6 1.2 1.1 1.8 9  e 2 " 7N 75W 9600 2/1 14.6 1.2 1.1 1.8 9  e 2 " 7N 75W 9600 2/1 14.6 1.2 1.1 1.8 9  e 2 " 7N 75W 9600 2/1 14.6 1.2 1.1 1.8 9  e 2 " 7N 75W 9600 2/1 14.6 1.2 1.1 1.8 9  e 2 " 7N 75W 9600 2/1 14.6 1.2 1.1 1.8 9  e 2 " 7N 75W 9600 2/1 14.6 1.2 1.1 1.8 9  e 2 " 7N 75W 9600 2/1 14.6 1.2 1.1 1.8 9  e 2 " 7N 75W 9600 2/1 14.6 1.2 1.1 1.8 9  e 3 " 77W 75W 9600 2/1 14.6 1.2 1.1 1.8 9  e 4 75W 75W 10200 2/1 14.6 1.2 1.1 1.8 9  e 5 10N 75W 10200 2/1 14.6 1.2 1.1 1.8 9  e 6 7 N 75W 10200 2/1 14.6 1.2 1.1 1.8 9  e 7 N 75W 9600 2/1 14.6 1.2 1.1 1.8 9  e 7 N 75W 9600 2/1 14.6 1.2 1.1 1.8 9  e 7 N 75W 9600 2/1 14.6 1.2 1.1 1.8 9  e 7 N 75W 9600 2/1 14.6 1.2 1.1 1.2 1.1 1.8 9  e 7 N 75W 9600 2/1 14.6 1.2 1.1 1.2 1.1 1.8 9  e 7 N 75W 9600 2/1 14.6 1.2 1.1 1.2 1.1 1.8 9  e 7 N 75W 9600 2/1 14.6 1.2 1.1 1.2 1.1 1.8 9  e 7 N 75W 9600 2/1 14.6 1.2 1.2 1.1 1.2 1.1 1.8 1.2 1.1 1.2 1.2 1.1 1.2	ett Creek#2	= 38	;	NOL	80M		1/30	144	0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	6.7	0	7.01	
#2 3 Wyo. 11 16N 75W 10200 1/31 42.3 12.2 13.9 9.4 10 34 "	ark #2	39 "	34	16N	81W		1/28	2(.3	5.1	4.7	, t.	10	6.1	
#2 3 Wyo. 11 16W 79W 10200 1/31 42.3 12.2 13.9 9.4 10  11 "" 21 13M 76W 9200 1/30 17.1 3.9 6.1 4.7 11  #2 35 " 29 16M 79W 8700 1/31 25.7 5.2 6.3 3.7 10  #2 36 " 24 16M 75W 8600 2/1 22.2 5.1 5.5 6.3  ** 50 " 26 10M 77W 9800 2/2 50.3 13.5 11.8 8.5 8  88 " 5 10M 77W 9800 2/2 50.3 13.5 11.8 8.5 8  1 Colo. 2 6M 76W 10300 2/1 40.2 14.2 12.4 9.7 9  e 2 " 6 7W 75W 8600 2/1 14.5 4.6 13.6 6.7 10  ake 65 " 88 5M 75W 10200 1/30 39.3 9.7 9.1 6.5 9  eke 65 " 88 5M 75W 10200 1/30 39.3 9.7 9.1 6.5 9  eke 66 " 18 7W 75W 10200 1/30 39.3 9.7 9.1 6.5 9  eke 68 " 18 7W 75W 10200 1/30 39.3 9.7 9.1 6.5 9  eke 68 " 18 7W 75W 10200 1/30 39.3 9.7 9.1 6.5 9			)				•	)	١	-				
** 3 Wyo. 11 16% 79% 10200 1/31 42.3 12.2 13.9 9.4 10  34 " 35 15% 76% 9200 1/30 17.1 3.9 6.1 4.7 11  wh. 21 13% 76% 8700 1/31 25.7 5.2 6.3 3.7 10  wh. 50 " 24 16% 75% 8600 2/1 22.2 5.1 5.5 5.5 8  ** 50 10% 77% 9800 2/2 50.3 13.5 11.8 8.5 8  34 Wyo. 35 15% 72% 8700 1/31 14.5 2.6 1.2 2.7 11  1 Colo. 2 6% 76% 10300 2/1 14.5 2.6 1.2 2.7 11  ** 6% " 5% 10% 75% 8600 2/1 14.5 12.4 9.7 9  ** 6% " 75% 8600 2/1 14.5 2.6 1.2 2.7 11  ** 6% " 75% 9600 2/1 14.6 4.0 4.8 4.5 9  ** 6% " 75% 9600 2/1 14.6 4.0 4.8 4.5 9  ** 6% " 75% 1000 2/1 14.6 4.0 4.8 4.5 9  ** 6% " 75% 1000 2/1 14.6 4.0 4.8 4.5 9  ** 6% " 75% 1000 2/1 14.6 4.0 4.8 4.5 9  ** 6% " 75% 1000 2/1 14.6 7.2 11.8 9  ** 75% 1000 2/1 14.6 4.0 4.8 4.5 9  ** 6% " 75% 1000 2/1 14.6 4.0 4.8 4.5 9  ** 75% 1000 2/1 14.6 4.0 4.8 4.8 4.5 9  ** 75% 1000 2/1 14.6 4.0 4.8 4.8 4.5 9  ** 75% 1000 2/1 14.6 4.0 4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8 4.8	E RIVER													
#2 35 " 29 16N 76W 9200 1/30 17:1 3.9 6.1 4.7 11 #2 36 " 29 16N 76W 8700 1/31 25.7 5.2 6.3 3.7 10  #2 36 " 24 16N 76W 8700 1/31 28.2 6.2 6.7 4.1 10  * 50 " 26 10N 77W 9800 2/2 50.3 13.5 11.8 8.5 8  34 Wyo. 35 15N 72W 8700 1/31 14.5 2.6 1.2 2.7 11	yn Lake	3 Wyo.	11	16N	M62	10200	1/31	42.3	12.2	13.9	4.6	10	11.8	
#2 35 " 29 16N 72W 8700 1/31 14.5 2.6 1.2 2.7 11  #2 36 " 24 16N 79W 8700 1/31 28.2 6.2 6.3 3.7 10  *	rk		27	13N	78W	9200	1/30	17.1	9.0	6.1	4.7	11	6.4	
#2 35 " 29 16N 78W 8700 1/31 25.7 5.2 6.3 3.7 10  wn. 4 colo. 7 8W 75W 8600 2/1 22.2 5.1 5.5 5.5 8  * 50 " 26 10N 77W 9800 2/2 50.3 13.5 11.8 8.5 8  34 Wyo. 35 15N 72W 8700 1/31 14.5 2.6 1.2 2.7 11  1 colo. 2 6N 76W 10300 2/1 14.6 4.0 4.8 4.5 9  2 " 6 7N 75W 8600 2/1 14.6 4.0 4.8 4.5 9  3 " 33 8N 75W 8600 2/1 14.6 4.0 4.8 4.5 9  5 " 2 6 10N 75W 10200 1/30 39.3 9.7 9.1 6.5 9  6 5 " 26 10N 75W 10600 2/2 54.7 13.6 6.7 10  ake 68 " 18 7N 75W 9500 2/1 19.5 4.6 3.7 3.7 9	tn.#2*	34 "	35	15N	72W	8700	1/31	14.5	9.0	1.2	2.7	11	2.6	
#2 36 " 24 16W 79W 9500 1/31 28.2 6.2 6.7 4.1 10  wn. 4 Colo. 7 8W 75W 8600 2/1 22.2 5.1 5.5 8  wn. 50 " 26 10M 75W 9800 2/2 50.3 13.5 11.8 8.5 8  34 Wyo. 35 15M 72W 8700 1/31 14.5 2.6 1.2 2.7 11  1 Colo. 2 6M 76W 10300 2/1 14.6 4.0 4.8 4.5 9  2 2 " 6 7M 75W 8600 2/1 14.6 4.0 4.8 4.5 9  3 " 33 8W 75W 8600 2/1 14.6 4.0 4.8 4.5 9  5 0 " 26 10M 75W 10200 1/30 39.3 9.7 9.1 6.5 9  6 5 " 8 5M 75W 10600 2/2 54.7 13.6 13.6 6.7 10  ake 68 " 18 77W 73W 9500 2/1 19.5 4.6 3.7 3.7 9	Lodge #2	35 "	56	16N	78W	8700	1/31	25.7	5.2	6.3	3.7	10	8,4	
** Colo. 7 8N 75N 8600 2/1 22.2 5.1 5.5 5.5 8  ** So " 26 10N 77W 9800 2/2 50.3 13.5 11.8 8.5 8  34 Wyo. 35 15N 72W 8700 1/31 14.5 2.6 1.2 2.7 11  1 Colo. 2 6N 76W 10300 2/1 14.6 4.0 4.8 4.5 9  2 " 6 7N 75W 8600 2/1 14.6 4.0 4.8 4.5 9  5 0 " 26 10N 75W 10200 1/30 39.3 9.7 9.1 6.5 9  5 0 " 26 10N 75W 10200 2/1 14.6 4.0 4.8 6.7 10  ake 68 " 18 5N 75W 10200 2/1 19.5 4.6 3.7 3.7 9	n Turn #2	36 "	577	16N	M62	9500	1/31	28.7	2,0	6.7	7-	10	5.7	
* 50 " 26 10m 77w 102c0 1/30 39.3 9.7 9.1 6.5 9 88 " 5 10m 77w 9800 2/2 50.3 13.5 11.8 8.5 8 34 Wyo. 35 15m 72w 8700 1/31 14.5 2.6 1.2 2.7 11  1 Colo. 2 6m 76w 10300 2/1 14.6 4.0 4.8 4.5 9 2 " 6 7m 75w 9000 2/1 14.6 4.0 4.8 4.5 9 3 " 33 8m 75w 102c0 1/30 39.3 9.7 9.1 6.5 9 65 " 26 10m 75w 102c0 2/2 54.7 13.6 13.6 6.7 10 ake 68 " 18 7m 75w 9500 2/1 19.5 4.6 3.7 3.7 9	G-P Tun.			NS NS	MC-Z	8600	2/2	22.2	5.1	ر ال	5.5	00	0.4	
88 " 5 10N 77W 9800 2/2 50.3 13.5 11.8 8.5 8  34 Wyo. 35 15N 72W 8700 1/31 14.5 2.6 1.2 2.7 11  1 Colo. 2 6N 76W 10300 2/1 14.6 4.0 4.8 4.5 9  2 " 6 7N 75W 9000 2/1 14.6 4.0 4.8 4.5 9  50 " 26 10N 75W 10200 1/30 39.3 99.7 9.1 6.5 9  65 " 26 10N 75W 10600 2/2 54.7 13.6 13.6 6.7 10  ake 68 " 18 7N 73W 9500 2/1 19.5 4.6 3.7 3.7 9.1	H:11*		- 90	NOL	- I-C	10200	1/30	30.2	0.7	0	, 10	0	7.2	
34 Wyo. 35 15N 72W 8700 1/31 14.5 2.6 1.2 2.7 11  1 Colo. 2 GN 76W 10300 2/1 40.2 14.2 12.4 9.7 9  2 " 6 7N 75W 9000 2/1 14.6 4.0 4.8 4.5 9  3 " 33 8N 75W 8600 2/1 5.4 1.2 1.1 1.8 9  50 " 26 10N 75W 10200 1/30 39.3 9.7 9.1 6.5 9  65 " 8 5N 75W 10600 2/2 54.7 13.6 13.6 6.7 10  ake 68 " 18 7N 73W 9500 2/1 19.5 4.6 3.7 3.7 9.		# 88	<u>(</u>	TOIN	M)	9800	2/2	50.00	13.5	11.8	8	ν Φ	17.0	
34 Wyo. 35 15N 72W 8700 1/31 14.5 2.6 1.2 2.7 11  1 Colo. 2 6N 76W 10300 2/1 14.6 4.0 4.8 4.5 9 2 " 6 7N 75W 9000 2/1 14.6 4.0 4.8 4.5 9 50 " 26 10N 75W 10200 1/30 39.3 9.7 9.1 6.5 9 65 " 8 5N 75W 10600 2/2 54.7 13.6 13.6 6.7 10 ake 68 " 18 7N 73W 9500 2/1 19.5 4.6 3.7 3.7 9.	RHEK					-								
e 2 " 6 KN 76W 10300 2/1 40.2 14.2 12.4 9.7 9  e 2 " 6 7N 75W 9000 2/1 14.6 4.0 4.8 4.5 9  5 " 26 10N 75W 8600 2/1 5.4 1.2 1.1 1.8 9  50 " 26 10N 75W 10200 1/30 39.3 9.7 9.1 6.5 9  65 " 8 5N 75W 10600 2/2 54.7 13.6 13.6 6.7 10  ake 68 " 18 7N 73W 9500 2/1 19.5 4.6 3.7 3.7 9	tn.#2		35	15N	72W	8700	1/31		2.6	1.2	2.7	11	2.6	
e 2 " 6 KN 76W 10300 2/1 40.2 14.2 12.4 9.7 9   2 " 6 7K 75W 9000 2/1 14.6 4.0 4.8 4.5 9   3 " 33 8N 75W 8600 2/1 5.4 1.2 1.1 1.8 9   50 " 26 10N 75W 10200 1/30 39.3 9.7 9.1 6.5 9   65 " 8 5N 75W 10600 2/2 54.7 13.6 13.6 6.7 10   ake 68 " 18 7N 73W 9500 2/1 19.5 4.6 3.7 3.7 9	D11/(FD			•										
e 2 " 6 7N 75W 9000 2/1 14.6 4.0 4.8 4.5 9 3 " 33 8N 75W 8600 2/1 5.4 1.2 1.1 1.8 9 50 " 26 10N 75W 10200 1/30 39.3 9.7 9.1 6.5 9 65 " 8 5N 75W 10600 2/2 54.7 13.6 13.6 6.7 10 ake 68 " 18 7N 73W 9500 2/1 19.5 4.6 3.7 3.7 9	n Pass	1 0010.	N	- N9	76W	10300	7/0	70.04	14.2	12.4	0.7	6	6.6	
1 50 " 26 1CN 75W 8600 2/1 5.4 1.2 1.1 1.8 9 650 " 26 1CN 75W 10200 1/30 39.3 9.7 9.1 6.5 9 65 " 8 5N 75W 10600 2/2 54.7 13.6 13.6 6.7 10 10 10 10 10 10 10 10 10 10 10 10 10	rs Lake		9	K	75W	0006	2/1	14.6	0.4	4.8	4.5	.0	0.4	
1 50 " 26 10N 75W 10200 1/30 39.3 9.7 9.1 6.5 9 65 " 8 5N 75W 10600 2/2 54.7 13.6 13.6 6.7 10 Lake 68 " 18 7N 73W 9500 2/1 19.5 4.6 3.7 3.7 9	uth	<u>=</u> ٣	33	NS NS	MC)	8600	2/1	5.4	1.2	1.1	1.8	0	1.1	
Lake 68 " 18 7N 73W 10600 2/2 54.7 13.6 13.6 6.7 10	n Hill	05	56	TOIN	75W	10200	1/30	39.3	7.6	9.1	6.5	0	7.3	
Lake 68 " 18 7N 73W 9500 2/1 19.5 4.6 3.7 3.7 9	rene*	= 65	ω	N.	MG.	10600	2/2	54.7	13.6	13.6	6.7	10	11.9	
	lass Lake	: 89	18	E	73W	9500	2/1	19.5	9.4	3.7	3.7	0	3.9	

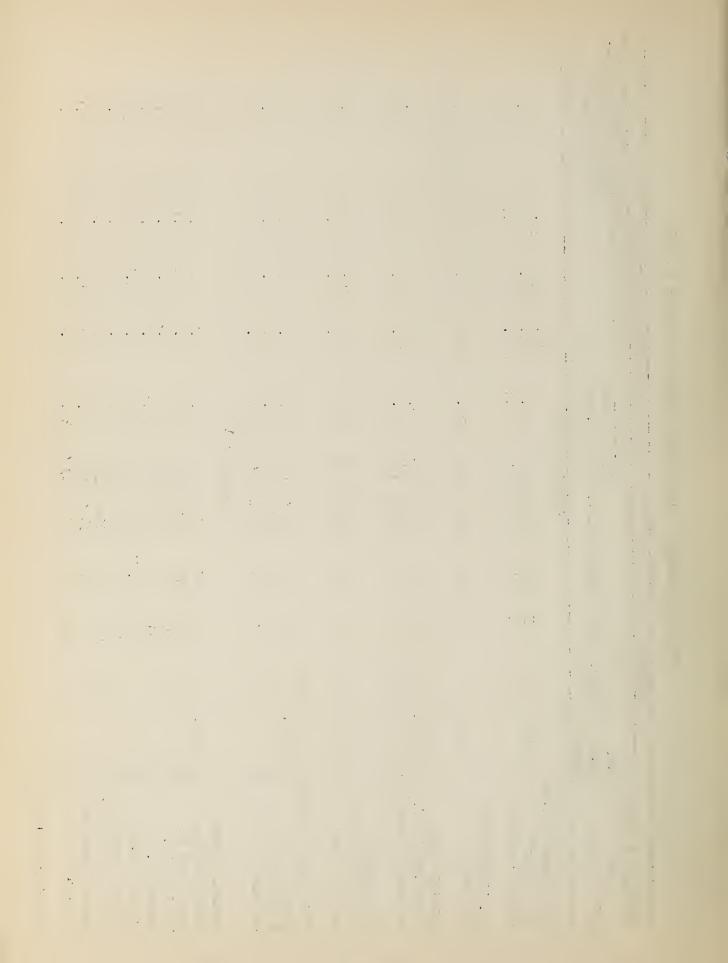
\*On Adjacent Drainage



-13-MISSOURI-ARKANSAS RIVERS SNOW SURVEYS, February 1, 1947

FWP. Range Elev. of Lepth Survey (Inche Show Tryer)   10600   2/2   24.7   10600   2/2   24.7   10700   1/31   38.4   10700   1/31   35.7   10700   1/31   35.7   10700   1/31   35.7   10700   1/31   30.9   10700   1/31   30.9   10700   1/31   30.9   10700   1/31   30.9   10700   1/31   30.9   10700   1/31   30.9   10700   1/31   30.9   10700   1/31   30.9   10700   2/2   17.3   10700   2/2   17.3   10700   2/2   17.3   10700   2/2   17.3   10700   1/31   15.2   10700   1/31   15.2   10700   1/31   15.2   10700   1/30   1/31   15.2   10700   1/30   1			LOCATION	ON				SNOW CO.	TRSE ME	COURSE MEASUREMENTS	NTS		
No.   State   Sec.   Twp.   Range   Elev.   Date   Snow   State   Store   Sucressian   State   Store   Sucressian   State   Store   Sucressian   State   Sucressian   State   Sucressian	BASIN								Water	Cont.ent.	(Tuch		10000 + 200
State   Sec. Twp. Range   Blev. of   Lepth   1946   1945   Record   State   Survey (Inches)   1947   1946   1945   Record   State   Survey (Inches)   1947   1946   1945   Record   1957   1958   1748   10600   2/2   24.7   13.6   13		No.					Date	Snow	1000		1011	ears	Av.Water
Color   Colo	RSE	and State	Sec.	Twp.	Range	Elev.	of Survey		1947	1946	1945	of Record	Content (Inches)
65 Colo. 8 570 7574 106600 2/2 54.7 116. 116. 116. 117. 6 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0						SSIW	į.	15					(2011)
#1 Colo. 24 3W 74W 10000 1/31 35.7 8.4 7.0 5.2 11  5 Colo. 2 28 74W 9400 2/3 9.7 2.8 2.3 3.4 10  61 Colo. 27 45 76W 10100 2/1 33.0 7.6 10.7 16.6 8.2 9  61 Colo. 27 45 76W 11250 1/31 28.2 4.9 7.6 2.4 9  14 Colo. 13 88 76W 11400 1/31 28.2 4.9 7.6 2.4 9  15 " 33 95 77W 10000 1/31 11.5 1.6 0.5 0.6 9  19 Colo. 21 88 86W 10200 2/3 29.4 5.2 7.2 3.1 12  19 Colo. 21 88 86W 10200 2/2 27.5 5.2 7.2 3.1 12  19 Colo. 22 115 82W 10500 2/2 27.5 5.2 7.2 7.1 4.1 10  19 Colo. 22 28 77W 10000 1/31 15.2 8.2 7.4 7.1 4.1 10  17 " 22 288 70Y 9300 2/4 26.0 7.0 3.3 5.7 8  74 " 22 288 70Y 9300 2/4 26.0 7.0 3.3 5.7 8  75 " 23 115 81W 9700 2/5 17.8 2.5 4.7 0.0 8  76 " 29 116 49W 6E 10500 1/30 43.5 9.0 11.4 5.2 12  77 " 22 28 70Y 9300 2/4 26.0 7.0 3.3 5.7 8  78 " 23 115 81W 9700 2/5 17.8 2.5 4.7 0.0 8  79 " 29 16 49W 6E 10500 1/30 43.5 9.0 11.4 5.2 12	room niver ne* alley #2		23		75W	10600	2/2	54.7 38.4	13.6 7.8	13.6 6.2	In. 6.7	10	11.9
5 Colo. 2	N RIVER		54	Æ	M <sup>1</sup> 7/	10000	1/31	35.7	4.8	7.0	5.2	디	6.3
61 Colo. 27	CREEK loffat T. ty Camp #2	5 Colo. 60 "	28 2	SS	74W 73W	9400	2/3	9.7	2.8	2.3	₩. 4.0.	10	90.
R (Above Denver)   S   78W   11400   1/31   28.2   4.9   7.6   2.4   9   15   1.5   1.6   0.5   0.6   9   15   1.5   1.6   0.5   0.6   9   15   1.8	EEK   Pass #2   Peak*	61 Colo. 97 "	27	4.S 5.S	76W	10100	2/1 1/31	33.0 39.5	9.2	10.7	7.0.	æ 9	4.9.5
19 Colo. 21 88 80W 10200 2/3 29.4 5.2 7.2 3.1 12 44 22 11S 82W 10500 2/1 34.2 7.4 7.1 4.1 10 6 4 48N 6E 10800 2/2 27.5 5.2 5.3 7.0 12 6 6 10800 1/3 15.2 17.3 4.3 4.7 6.1 12 6 6 10800 1/3 15.2 17.3 4.3 4.7 6.1 12 6 6 10800 1/3 15.2 17.3 4.3 4.7 6.1 12 6 6 10800 1/3 15.2 17.3 4.3 5.7 8 4 7 6.1 12 8 8 70W 9300 2/4 26.0 7.0 3.3 5.7 8 4 7 0.0 8 2 8 70W 11400 1/30 43.5 9.0 11.4 5.2 12 8 8 79W 11400 1/30 43.5 9.0 11.4 5.2 12 8 9 9.4 10.8 8.2 7	ATTE RIVER Pass n Cr.#2	(Above De 14 Colo. 15 " 83 "	nver) 13 33 14	88 85 E	78w 77w 76w	11400 10000 10100	1/31	28.2 11.5 30.9	7.69 4.14	6.0	1.00.0	0,00	5.0
19 Colo. 21 88 86W 10200 2/3 29.4 5.2 7.2 3.1 12 4 4 8N 6E 10800 2/2 27.5 5.2 5.3 7.0 12 6 4 4 8N 7E 10500 2/2 17.3 4.3 4.7 6.1 12 6 4 8N 7E 10500 1/31 15.2 3.3 2.1 3.1 8 3 3 7.2N 105.2W 10300 1/31 15.2 3.3 2.1 3.1 8 3 3 7.0V 9300 2/4 26.0 7.0 3.3 5.7 8 4 7 7 8 1 15 8N 9700 2/5 17.8 2.5 4.7 0.0 8 2 2 8S 79W 11400 1/30 43.5 9.0 11.4 5.2 12 8 9 9.4 10.8 8.2 7	RTVER					ARKAN		VER					
	o Pass es T. Cr.* Cr.#2 Pass#2* Pass#2* Pass #2*				80W 82W 6E 7E 70V 70V 81W 79W	10200 10500 10800 10500 10500 9700 11400	20/21 20/21 20/21 20/21 30	28 37 117 125 125 125 125 125 125 125 125 125 125	0.4.0.4.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0	7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.		12 12 12 12 12 12	4000.W4080 000040040

\*On Adjacent Frainage



The following organizations cooperate in the snow surveys and irrigation water supply forecasts for the Colorado, Missouri-Arkansas and Rio Grande watersheds by furnishing funds or services.

STATE

Coloralo State Engineer
Wyoming State Engineer
Utah State Engineer
New Mexico State Engineer
Montana State Engineer
Nebraska State Engineer
Colorado Experiment Station
Colorado Extension Service
Montana Experiment Station
Utah Experiment Station

FEDERAL

Department of Agriculture Forest Service Soil Conservation Service

Double to the section of Test and and

Department of Interior

Bureau of Reclamation

Indian Service

Geological Survey National Park Service

Department of Commerce

Weather Bursan

War Department

Army Engineer Corps

PUBLIC UTILITIES

Colorado Public Service Company Western Colorado Power Company

Montana Power Company

Denver and Rio Grande Western R. R. Company

MUNICIPALITIES

City of Bozeman City of Denver City of Boulder

WATER USERS ORGANIZATIONS

Poudre Valley Water Users' Association Arkansas Valley Ditch Association

Colorado River Water Conservation District

IRRIGATION PROJECTS

Farmer's Reservoir and Irrigation Company
San Luis Valley Irrigation District
Santa Maria Reservoir Company
Costilla Land Company
Uncompangre Valley Water Users' Association
Wyoming Development Company
Goshen Irrigation District
Kendrick Project
Pathfinder Irrigation District
Salt River Valley Water Users' Association
San Carlos Irrigation and Drainage District
Twin Lakes Reservoir and Canal Company

Many other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.